an input terminal coupled to receive a third voltage representing a product of a prefixed bias voltage Vref and a second multiplier factor; and

a single calibration circuit coupled to the algebraic summing node to calibrate said third voltage and operative to calibrate said second multiplier factor in response to a calibration control signal, in order to cancel said second voltage, while the current is in the coil in a continuous mode.

2. (Amended) BEMF detection circuit according to claim 1 wherein said single calibration circuitry comprises:

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a resistive element having a first and a second terminal including a plurality of resistances connected in series, the first terminal is coupled to the prefixed bias voltage and the second terminal is coupled to receive a signal proportional to the current in the coil; and

said plurality of resistances are connected to a plurality of controlled switches controlled by said calibration control signal, a terminal of each of said switches are connected together to form a node, wherein on said node at least one of the switches is coupled to take a portion of a voltage applied on said plurality of resistances in response to said calibration control signal.

3. (Amended) BEMF detection circuit according to claim 2, wherein said signal proportional to the current in the coil is produced by an operational amplifier that amplifies a voltage on a resistance through which the current in the coil is flowing.

4. (Amended) A BEMF detection circuit for a voice-coil motor operative to continually generate a signal proportionally to a velocity of said voice-coil motor such that said signal is the sum of a first signal component, a second signal component and a third signal component, the BEMF detection circuit comprising:

a circuit block having:

an input terminal coupled to receive the first signal component representing the product of a first multiplier factor and a voltage across the coil;

an input terminal coupled to receive the second signal component representing the product of a second multiplier factor and a current in the coil; and

an input terminal coupled to receive the third signal component representing a signal able to eliminate said second signal component, while the current is in the coil in a continuous mode.

Please add new claims 6-13 as shown:

6. (New) A BEMF detection circuit for a voice-coil motor to continually generate a signal proportional to a velocity of the voice-coil motor, the detection circuit comprising:

a summing circuit having an output terminal to output a BEMF voltage and having:

a first input terminal to receive a first signal component that is based upon a voltage across the voice-coil motor;

a second input terminal to receive a second signal component that is based upon a first multiplier factor and a current in a coil of the voice-coil motor; and

a third input terminal to receive a third signal component that is based upon a reference voltage and a second multiplier factor; and

a calibration circuit coupled to the summing circuit to calibrate the second multiplier factor of the third signal component, in response to a calibration control signal generated while the current is in the coil in a continuous mode, to cancel the second signal component.

7. (New) The detection circuit of claim 6 wherein the summing circuit comprises an operational amplifier.

8. (New) The detection circuit of claim 7 wherein the operational amplifier includes a non-inverting input terminal comprising the first input terminal, and an inverting input terminal comprising the second and third input terminals.

9. (New) The detection circuit of claim 6 wherein the calibration circuit comprises:

a resistive element having a plurality of resistance elements, and having a first terminal coupled to the reference voltage and a second terminal coupled to receive a signal indicative of the current in the coil; and

a plurality of controllable switches capable to be controlled by the calibration signal, and having first terminals respectively coupled to the resistance elements and second terminals coupled together at a node, wherein application of the calibration control signal at the node changes a voltage applied on the plurality of resistance elements to change the second multiplier factor.

10. (New) The detection circuit of claim 6 wherein the calibration circuit comprises:

a resistive element having a plurality of resistance elements, and having a first terminal coupled to a voltage follower and a second terminal coupled to an output of an operational amplifier; and

a plurality of controllable switches capable to be controlled by the calibration signal, and having first terminals respectively coupled to the resistance elements and second terminals coupled together at a node, wherein application of the calibration control signal at the node changes a voltage applied on the plurality of resistance elements to change the second multiplier factor.

11. (New) The detection circuit of claim 9 wherein the calibration control signal is represented by Vref * Rx/Rtot, wherein Vref is the reference voltage, Rx is a sum of resistances corresponding to resistance elements whose controllable switches are closed, and Rtot is a total resistance of the resistive element.

12. (New) The detection circuit of claim 9, further comprising:

an operational amplifier having an output coupled to the second terminal of the resistive element to output the signal indicative of the current in the coil; and

a resistor coupled to an input terminal of the operational amplifier and through which the current in the coil flows.

A10 13. (New) The detection circuit of claim 9, further comprising a hard disk controller coupled to the output terminal of the summing circuit to receive the BEMF voltage and coupled to the node of the controllable switches to provide the calibration control signal to the controllable switches.

REMARKS

This Amendment is being filed in response to the Office Action mailed on January 4, 2002. The specification is amended as shown above. Claims 1-4 are amended. New claims 6-13 are added. With this Amendment, claims 1-13 are now pending in the application.

In the Office Action, the Examiner objected to the specification because of various grammatical and idiomatic errors. Therefore, the applicants have amended the specification as shown to correct the errors. No new matter has been added.

In the Office Action, the Examiner rejected claims 1-5 under 35 U.S.C. § 112, second paragraph, for being indefinite. More specifically, the Examiner indicated that claims 1 and 4 did not clearly and positively recite structure and were in narrative form. The applicants have amended claims 1 and 4 herein to positively recite structure, thereby overcoming the 35 U.S.C. § 112, second paragraph, rejection.

In the Office Action, the Examiner further rejected claims 1-5 under 35 U.S.C. § 102 as being anticipated by Carobolante (U.S. Patent No. 6,081,112). For the reasons set forth below, the applicants respectfully request the Examiner to reconsider and to withdraw the rejections.

A disclosed embodiment of the invention will now be discussed in comparison to the applied references. Of course, the discussion of the disclosed embodiment, and the discussion of the differences between the disclosed embodiment and subject matter described in the applied references, do not define the scope or interpretation of any of the claims. Instead,